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(54) **Variable stiffness wedge insert for runflat tire**

(57) A pneumatic radial ply runflat tire (1000) for a vehicle has a tread (1012), a carcass (1022) comprising at least one radial ply (1030) and two sidewalls (1016) each reinforced by a circumferentially disposed crescent-shaped wedge insert. Each insert has an elastomeric porous section (1042) embedded in an elastomeric stiffer layer (1044) of the insert (1040). When the tire

is normally inflated, the porous section (1042), and hence the insert as a whole, is flexible, thereby providing comfortable driving characteristics. Under runflat (deflated tire) conditions, the pores in the porous section (1042) collapse, and the porous section (1042) stiffens, and hence the insert as a whole becomes stiff enough to support the load of the vehicle.

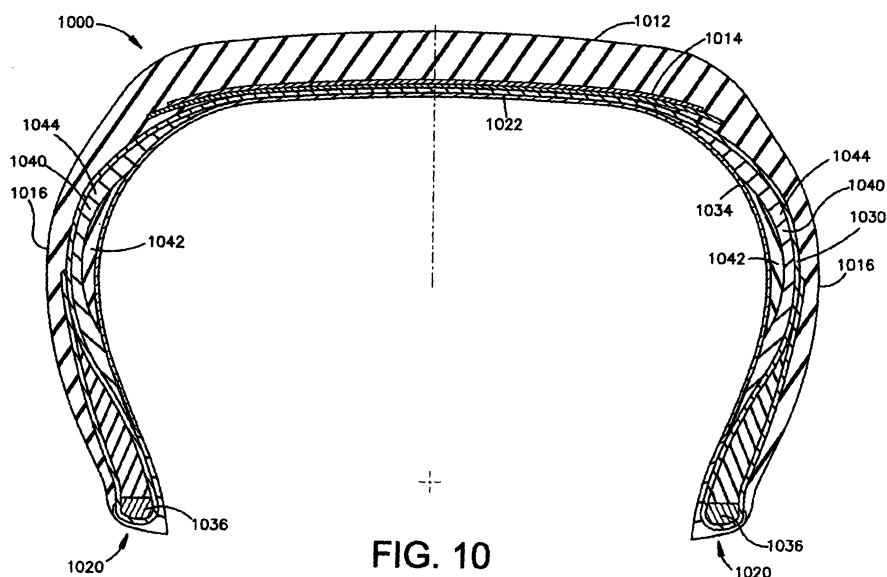


FIG. 10



European Patent
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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
D,X	US 4 779 658 A (YAMADA TSUGUYOSHI ET AL) 25 October 1988 (1988-10-25) * column 3, line 21 - column 4, line 7; figure 1 *	1-3,7,8	B60C17/00
X	EP 0 371 755 A (SUMITOMO RUBBER IND) 6 June 1990 (1990-06-06) * page 3, line 54 - line 58; figure 1 *	1-3,7,8	
A	US 4 287 924 A (LEFAUCHEUR CLAUDE ET AL) 8 September 1981 (1981-09-08) * column 1, line 52 - line 66; figures *	1-3,5,7,8	
A	US 5 526 862 A (GHILARDI GIULIANO) 18 June 1996 (1996-06-18) * column 4, line 38 - line 49; figure 3 *	1-3,10	
P,A	EP 1 057 663 A (HANKOOK TIRE CO LTD) 6 December 2000 (2000-12-06) * paragraph [0027]; figure 2 *	1-3,10	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B60C
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 16 May 2003	Examiner Peschel, W
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 11 1980

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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16-05-2003

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 4779658	A	25-10-1988	JP	1978849 C	17-10-1995
			JP	6102406 B	14-12-1994
			JP	62279107 A	04-12-1987

EP 0371755	A	06-06-1990	JP	2147417 A	06-06-1990
			AU	631384 B2	26-11-1992
			AU	4567089 A	07-06-1990
			CA	2003756 A1	31-05-1990
			DE	68912097 D1	17-02-1994
			DE	68912097 T2	28-04-1994
			EP	0371755 A2	06-06-1990
			US	5058646 A	22-10-1991

US 4287924	A	08-09-1981	FR	2425333 A1	07-12-1979
			DE	2962776 D1	01-07-1982
			EP	0005399 A1	14-11-1979
			JP	54151201 A	28-11-1979

US 5526862	A	18-06-1996	IT	1252293 B	08-06-1995
			IT	1256012 B	20-11-1995
			DE	69211296 D1	11-07-1996
			DE	69211296 T2	23-01-1997
			EP	0542252 A1	19-05-1993
			ES	2090459 T3	16-10-1996
			JP	3261178 B2	25-02-2002
			JP	5238215 A	17-09-1993
			US	5413160 A	09-05-1995

EP 1057663	A	06-12-2000	US	6182728 B1	06-02-2001
			EP	1057663 A1	06-12-2000
			JP	2000343914 A	12-12-2000
			KR	2001006570 A	26-01-2001
			US	6422279 B1	23-07-2002
